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54 Vector calculation circuit capable of rapidly carrying out vector calculation of three input vectors.

57 In a vector calculation circuit for use in a vector addition of first, second, and third vectors each of which is composed of an identical number to one another, a first adder circuit (26) comprises a carry save adder which carries out a carry save addition of a set of three components selected from the first through third vectors to produce a local sum and a carry collectively as a result of the carry save addition. The local sum and the carry is successively summed up by a second adder circuit (27) to produce a primary sum which forms an output vector. The primary sum may successively be sent back to the first adder circuit as the third vector. A selector circuit may be connected to the first adder circuit to select the first through third vectors and a fixed value of zero and to selectively add either two of the first through third vectors or three of them. Alternatively, a pair of selectors may be included to select either the first and the second vectors or the local sum and the carry.

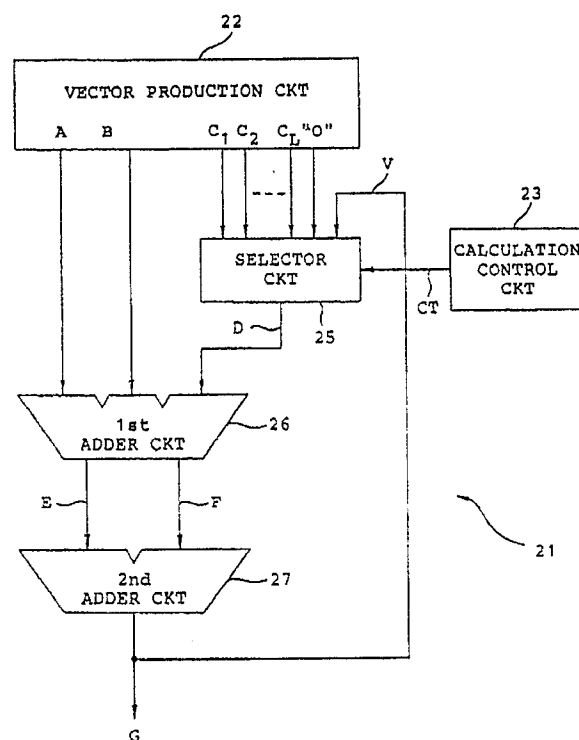


FIG. 4

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## EUROPEAN SEARCH REPORT

Application Number

EP 88 10 3280

### DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-3 900 723 (L.R. BETHANY et al.) * Fig.; column 1, lines 29-46; column 2, lines 17-33,39-61; column 3, line 21 - column 4, line 3 * - - - -	1,2	G 06 F 7/50 G 06 F 15/347
A	PATENT ABSTRACTS OF JAPAN, vol. 8, no. 137 (P-282)[1574], 26th June 1984; & JP-A-59 38 848 (NIPPON DENKI K.K.) 02-03-1984 * Whole abstract * - - - -	3,4	
A	IBM TECHNICAL DISCLOSURE BULLETIN, vol. 10, no. 6, November 1967, pages 727-728, New York, US; R.E. GOLD- SCHMIDT: "Dual-mode adder" * Figure * - - - -	1-4	
A	IBM TECHNICAL DISCLOSURE BULLETIN, vol. 24, no. 5, October 1981, pages 2483-2489, New York, US; T.K.M. AGERWALA: "Accumulator-based vector instructions" * Figures 1,2 * - - - - -	1-4	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			G 06 F
Place of search		Date of completion of search	Examiner
The Hague		17 December 90	DE LA FUENTE DEL AGU
CATEGORY OF CITED DOCUMENTS			
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T: theory or principle underlying the invention			